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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/683,031

11/09/2001

Alevtina Smirnova

200-1215 DP

6086

28391

7590

11/25/2003

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EXAMINER

NOLAN, SANDRA M

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 11/25/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,031

Applicant(s)

SMIRNOVA ET AL

Examiner

Sandra M. Nolan

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003 and 11 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 14-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 28 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims

1. Claims 1-29 are pending. Claims 14-27 are nonelected pursuant to applicants' election without traverse in the response of 06 November 2002 (Paper No. 5).

Election/Restrictions

2. This application contains claims 14-27 drawn to an invention nonelected with traverse in Paper No. 5. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Rejections Withdrawn

3. The 35 USC 103 rejection of claims 1-8 as unpatentable over Chalasani et al (US 6,080,345) in view of Theodore et al (US 4,615,851), as set out in section 8 of the 15 May 2003 office action (Paper No. 9), is withdrawn in view of applicants' amendments to the claims in the responses dated 11 August 2003 and 11 September 2003 (Paper Nos. 10 and 12).
4. The 35 USC 103 rejection of claims 9-12 as unpatentable over Chalasani in view of Takeuchi, as set out in section 9 of Paper No. 9, is withdrawn in view of applicants' amendments to the claims in Paper Nos. 10 and 12.
5. The 35 USC 103 rejection of claim 13 as unpatentable over Chalasani in view of the Liang et al article is withdrawn in view of applicants' amendments to the claims in Paper Nos. 10 and 12.

New Rejections

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-6 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Theodore (US 4,615,851) in view of Zucker et al (US 4,357,436).

Theodore is discussed in section 12 of the 02 January 2003 office action (Paper No. 6).

It fails to teach the use of a solvent when mixing its ingredients.

Zucker teaches composites made by dissolving an elastomer in a solvent (col. 3, lines 8-10), such as toluene or benzene (col. 3, line 3), to make a material that is mixable with powdered fillers, such as silicates and silicas (col. 2, lines 54 and 60-62) and is formable by extrusion (col. 3, lines 30-31). The solvent insures a uniform mixture of fillers and rubber (col. 3, lines 8-17).

The patents are analogous because they both deal with extrudable elastomeric compositions.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the ingredients and the sintering technique of Theodore in the process of Zucker in order to make a compositions from which one could remove the solvent and sinter the partially cured articles.

The motivation to employ the solvents of Zucker when mixing Theodore's ingredients is found at col. 3, lines 8-17 of Zucker, where it teaches that the insures a uniform mixture of fillers and rubber (col. 3, lines 8-17).

It is deemed beneficial to mix the ingredients of Theodore, with the assistance of the solvents of Zucker, in order to assure that the ingredients are dispersed uniformly in the green articles and in the sintered products.

The use of antioxidants and suitable extrusion temperatures is deemed a matter of engineering choice, depending upon the properties desired in the articles.

8. Claims 1-4, 7-8, 11-13 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Theodore in view of JP 04119830A (abstract only) and Takeuchi et al (US 5,733,499).

Theodore is discussed in section 12 of Paper No. 6. It fails to teach the use of oils as solvents for styrene/butadiene rubber (SBR) or the yttria-stabilized zirconia ceramic powder claimed.

The Japanese abstract teaches oil as a solvent for SBR "cements" (second paragraph of the abstract).

Takeuchi is discussed in section 9 of Paper No. 9. Note that its green articles have a controlled degree of aggregation of ceramic particles (col. 3, line 59). The yttria-stabilized zirconia ceramic and transition metal oxide sintering aid are taught at col. 4, lines 18-20 and 28.

It is well known that iron is a transition metal.

The references are analogous because they all deal with filled resin compositions

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It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the ceramics and oxides of Takeuchi and the oil solvent of the Japanese abstract's cement when formulating the compositions of Theodore in order to produce better mixing of the SBR binder with the ceramics of Takeuchi and to attain controlled aggregation of the ceramic particles.

The motivation to employ the oils of the Japanese abstract is found in the second paragraph of the abstract, where the rubber/oil solution is called a cement.

The motivation to employ the ceramics and oxides of Takeuchi is found at col. 3, lines 58-60, where the controlled aggregation of the particles is taught.

It is deemed beneficial to make green, sinterable articles having cemented particles, per the Japanese abstract, and controlled aggregation, per Takeuchi, using the other ingredients of Theodore.

The use of antioxidants and suitable extrusion temperatures is deemed a matter of engineering choice, depending upon the properties desired in the articles.

Response to Arguments

9. Applicant's arguments with respect to claims 1-13, 28 and 29 have been considered but are moot in view of the new ground(s) of rejection.

Final Rejection

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication should be directed to the Examiner, Sandra M. Nolan, whose telephone number is 703/308-9545. The Examiner can normally be reached on Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

If attempts to reach the Examiner by telephone are unsuccessful, her supervisor, Harold Pyon, can be reached at 703/308-4251. The general fax number for the art unit is 703/305-5436. The fax number for after final communications is 703/872-9310. The receptionist answers 703/308-0661.



S. M. Nolan
Patent Examiner
Technology Center 1700

SMN/smn
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18 November 2003